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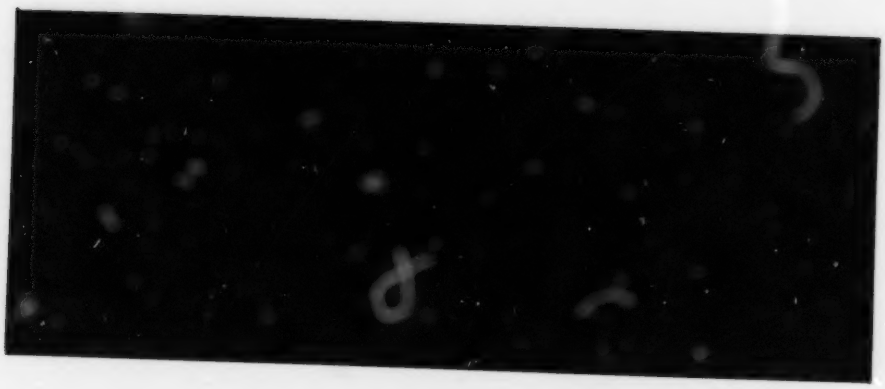

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FINAL REPORT

Swine Nutrition Guide
A practical, comprehensive guide to the feeding of swine with particular reference to the use of opportunity feeds

Executive Summary

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Swine Nutrition Guide
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Executive Summary

Abstract

The Swine Nutrition Guide was designed to provide practical, easy-to-read information on the feeding of pigs and the use of local feed ingredients and opportunity feeds. It was also intended to help producers increase control over their operation by providing background information on swine diet formulation. The latter point was considered important since feed represents over 60% of the total cost of raising pigs.

The 260 page Guide consists of 11 chapters, including background information on nutrition, approaches to diet formulation, nutrition of the various classes of swine (adults, young pigs and market hogs), processing feed for pigs and toxins that may be present in practical diets. The largest chapter discussed in detail the use of over 40 different feed ingredients.

The Guide was marketed directly to pork producers, at a swine nutrition seminar, by advertising in agricultural journals and by distributing brochures directly to them through their marketing board. To date, more than 1000 books have been distributed to pork producers as well as extension personnel, the feed industry and university and college staff.

Evaluations suggest the book has been well received. Eighty-two percent of respondents rated the book very useful and none ranked it not useful.

Summary

The Swine Nutrition Guide was written by Drs. John Patience and Phil Thacker of the University of Saskatchewan. It was designed to provide practical, easy-to-read information on the feeding of pigs and the use of local ingredients and opportunity feeds. It was also intended to help producers increase control of their operation by providing background information on swine diet formulation.

Feed represents over 60% of the total cost of raising pigs. Pork producers in Saskatchewan currently spend almost $100 million on feed annually. Some producers in Saskatchewan are able to achieve large savings by using uncommon ingredients in their diets. Others devote considerable effort to selecting diets on the basis of overall profitability, rather than performance. However, for the majority of producers, feeding programs are considered fixed and have remained unchanged for many years. Although part of the reason may be simple inertia, for the most part producers express real frustration in obtaining unbiased, practical information that they can exploit to improve their feeding programs. The Swine Nutrition Guide was designed to be that unbiased, practical source of information. It is written specifically with the pork producer in mind and incorporates information relating to commonly asked questions on feed forumulation, feed processing and ingredient utilization.

Because of the predominant position of feed in the cost of production budget of pork producers, it should receive appropriate emphasis in any cost-cutting effort. However, attempts to reduce the cost of feed must ensure that income is not reduced by a greater amount. The Swine Nutrition Guide discusses the relationship among diet composition (ingredients and nutrients), animal performance and profitability. A survey of only 4 pork producers in the province with sufficient records to allow comparison revealed that feed costs varied by about $7.00 per pig sold; this was among high producing farms with excellent record keeping systems. Clearly, the difference among the general population of pork producers in the province would be much higher. Consequently, there would appear to be tremendous opportunities to reduce the overall cost of production if some farms adopted the feeding practices of the farms with low feed costs. The Swine Nutrition Guide provides all of the information being used by these farmers to minimize their feed cost while maintaining a high level of productivity.

From the perspective of the grains industry, the pork industry should be viewed as a major market for their products. The Canadian pig industry consumes in excess of $1 billion worth of feed per year. This makes it an enormous market for local feed ingredients, free of the marketing and other problems associated with export markets overseas. To exploit this market to the maximum, the grains industry needs to understand the unique needs of pork producers, and they in turn must be willing and able to

utilize local ingredients to a greater extent. The Swine Nutrition Guide provides all of the information needed by both parties to more effectively work to achieve their common goals.

The 260 page Guide consists of 11 chapters, including background information on nutrition, approaches to diet formulation, nutrition of the various classes of swine (adults, young pigs and market hogs), processing feed for pigs and toxins that may be present in practical diets. The largest chapter discusses the use of over 40 different feed ingredients. These include not only the common feedstuffs such as barley, wheat, corn, canola meal and soybean meal, but other more "novel" ingredients, such as field peas, lentils, screenings, potatoes, sunflowers and triticale.

The marketing of the Guide employed a number of different approaches. A major conference, focusing on swine nutrition with speakers from across Canada, the United States and England, attracted over 170 participants from across Canada and parts of the United States. This conference was used to initiate the marketing of the book. Subsequent to the conference, advertisements in trade magazines, solicited orders from pork producers. Later, direct mailing of brochures to pork producers proved to be the most effective selling tool.

To date, more than 1000 books have been distributed to pork producers as well as extension personnel, the feed industry and university and college staff. Sales are continuing at a strong rate; at least two universities have decided to use the book in courses on swine production. Some feed manufacturers and veterinarians have made bulk purchases for distribution of copies to customers and clients. Marketing activities will continue until it is felt that the target market has been saturated. At some point in the future, perhaps in about 5 years, a second (revised) edition may be required.

Evaluations suggest the book has been well received. Eighty-two percent of respondents rated the book very useful and none ranked it not useful.

Technical Report

Abstract

The Swine Nutrition Guide was designed to provide a practical, easy-to-read guide to the feeding of pigs, to provide pork producers with practical, detailed information on how to feed local ingredients and opportunity feeds and to increase the control producers have of their operation by providing background information on swine diet formulation.

Objectives

Feed remains a significant component of the total cost of pork production. Consequently, when attempts are made to reduce overall operating costs, feed is a logical candidate. The variation in feed costs among farms suggests there is considerable opportunity to effect savings, in the range of $5-$10 per pig sold. However, since feed quality has a tremendous impact on productivity, efforts to reduce feed costs must be made with great care and must be based on a sound understanding of the principles involved. In other words, producers need to know how to achieve real, as opposed to apparent, savings. This is the basis for writing and publishing the Swine Nutrition Guide.

Prior to its release, there was no comprehensive guide written from a Canadian perspective, and certainly not from a western Canadian perspective. The Swine Nutrition Guide will hopefully resolve this situation. The book was not only designed to provide useful information for pork producers, but to also do so from a perspective that fills the unique needs of local producers; for this reason, the emphasis was placed on diets based on wheat and barley. The use of opportunity feedstuffs available on the Prairies, such as lentils, peas and sunflowers and more than 40 others, is the focus of the largest, and most popular, chapter.

The objectives of this project, as defined in the original project outline were:

1. To provide a practical, easy-to-understand guide to the feeding of pigs. The guide will be directed specifically at pork producers, but will also be a useful reference and teaching aid for allied industry and government personnel.

2. To provide pork producers with the practical, detailed information necessary for them to utilize local ingredients and opportunity feeds to the maximum extent possible.

3. To give pork producers greater direct control of their operation, by providing background information on swine diet formulation. Since feed represents 60-75% of the total cost of production, and since feed quality has a major effect on

productivity, such information will help maximize productivity and minimize costs.

Methods

The book was written by Drs. Patience and Thacker, with the help of an editorial assistant (Janice Cruise and later, Anne Summach). Once the draft manuscript was completed, it was reviewed internally, corrected and then submitted for external review. The external reviewers were two pork producers, Harold Fast, Spiritwood, Saskatchewan and Dave Price, Acme, Alberta, an extension worker, Clarence Froese, Winnipeg, Manitoba and a professional nutritionist, Vic Pouteaux, Regina, Saskatchewan. The manuscript was also reviewed by a representative of the Agriculture Development Fund. Changes recommended by the reviewers were incorporated into the final manuscript.

An artist was hired to prepare the cover design and prepare cartoons for use in the book. The book was originally written on an IBM word processing system and later converted electronically to an Apple-based system for integration into a desk-top publishing program (Aldus Page-Maker). The manuscript was prepared to the level of camera-ready copy. Quotes were received from a number of firms with the lowest bid received from Houghton Boston in Saskatoon. A total of 1,500 copies of the book was printed, an increase from the 1,000 originally proposed.

The Swine Nutrition Conference was held in early April to coincide with the release of the book and provide the first step in marketing the book. Speakers from Alberta, Saskatchewan, Manitoba, North Carolina and England covered a broad range of topics, reflecting for the most part the material covered in the book. A brochure detailing the program is attached. The Conference, held in Saskatoon, attracted about 175 people mainly from the four western provinces, but also repesenting eastern Canada and the northern United States.

Following the Conference, the marketing program for the book was initiated. Half-page advertisements were carried in the Western Hog Journal and the Ontario Marketplace Quarterly. A brochure (attached) was distributed directly to pork producers in the four western provinces, with the assistance of the respective marketing boards or extension service. The direct mail approach has proven to be by far the most effective, having generated the most sales to date. Brochures have also been taken to conferences attended by potential customers; this approach has also proven to be very effective.

The marketing program continues, with attention spreading to eastern Canada and the United States. An American organization has expressed interest in assisting with sales of the book to pork producers and veterinarians worldwide. The book has been selected for use as reference material at the Annual Meeting of the American

Association of Swine Practitioners and will also be used as textbooks in at least two Canadian universities. University bookstores have been approached about handling the book as well. To date, three have agreed; responses from the other university bookstores are pending.

All books are accompanied by an evaluation form, attached. This has been used to assist with evaluating the strengths and weaknesses of the book. Letters have also been received from some individuals who have purchased the book (examples attached).

In addition to that provided by the Canada/Saskatchewan ERDA Agreement, financial support was obtained from the Western Grains Research Foundation, the Saskatchewan Pork Producers Marketing Board and the College of Agriculture Dean's Fund.

Results

The book has sold very well to date. Total distribution recently exceeded 1,000 copies, the original printing run (since increased to 1,500). It is too early to tell if a second run will be required, but it is a possibility.

Of the 1,042 books distributed to date, 159 have been donated to supporters of the project (including 100 to A.D.F.), 185 were sold at the Swine Nutrition Conference and 698 have been sold through direct sales. A breakdown of book distribution by client class appears in Table 1.

A total of 28 evaluation forms have been returned to date. This is a very small sample, and although respondents appear to reflect the overall sales profile in terms of client group, the results must be viewed with great caution. The results of the evaluation form appear in Table 2. The overall evaluation suggested strong approval for the Guide. Specific responses, summarized in the table, provide some suggestion that the objectives of the project have been met.

The chapters ranked most useful were 4, 8, 6 and 9. The chapter ranked least useful was number 1. Many respondents indicated that all chapters were useful.

Features of the book that respondents liked the most included its practical content, integration of nutrition into overall management, simplicity, the discussion on alternative ingredients and its value as a reference book.

The features most commonly complained about were the poor index and the lack of numbers in the table of contents.

Conclusion

The Swine Nutrition Guide has been published as per the original proposal and met with good success, in terms of both sales and feedback by its readers. Sales have exceeded initial projections and feedback has been positive.

Personnel

Authors	
Dr. John F. Patience	0.50 FTE
Dr. Phil A. Thacker	0.30 FTE
Editorial assistants	
Ms. Anne Summach	0.55 FTE
Ms. Janice Cruise	0.30 FTE
Other staff	
Ms. Fran Teitge	0.24 FTE
Ms. Donna Fleury	0.07 FTE
Ms. Denise McLean	0.05 FTE
Ms. Lori Patzer	0.04 FTE
Ms. Penny Tomlin	0.04 FTE
Mr. Paul Freitag	0.02 FTE
Mr. Bob Maltman	0.01 FTE
Ms. Jackie Picketts	0.01 FTE
Ms. Irene Wenger	0.00 FTE

TABLE 1. TOTAL BOOK SALES BY CLIENT GROUP

Client group	Number	Percent
Pork producers	526	50.5
Feed industry	226	21.7
Government[1]	204	19.6
Veterinarians	49	4.7
Education Inst.	16	1.5
Other[2]	21	2.0
TOTAL	1042	100.0

[1] Includes 100 free books to A.D.F.
[2] Includes libraries, associations and financial institutions

TABLE 2. SUMMARY OF EVALUATION FORMS

Question	Response	Percent
1. Overall evaluation	very useful	82
	useful	18
	not very useful	0
2. Information is	very practical	64
	practical	36
	not practical	0
3. Length	too long	4
	right length	96
	too short	0
4. Detail	too much detail	15
	right amount of detail	70
	too little detail	15
5. Style	easily understood	86
	understandable	14
	not understandable	0
6. Cartoons	very helpful	7
	helpful	72
	not helpful	21
7. Photographs	very helpful	21
	helpful	75
	not helpful	4
8. Figures/tables	very helpful	46
	helpful	54
	not helpful	0
13. Price	too expensive	4
	about right	85
	too inexpensive	11

The size of producers completing questionnaires ranged from a high of 8000 to a low of 350 hogs marketed per year.